

### Abstract of the Disclosure

A method of preparing layered lithium-chromium-manganese oxides having the formula  $\text{Li}[\text{Cr}_x\text{Li}_{(1/3-x/3)}\text{Mn}_{(2/3-2x/3)}]\text{O}_2$  where  $0.1 \leq x \leq 0.5$  for lithium batteries.

- 5 Homogeneous precipitation is prepared by adding lithium hydroxide (LiOH) solution to a mixed solution of chromium acetate ( $\text{Cr}_3(\text{OH})_2(\text{CH}_3\text{CO}_2)_7$ ) and manganese acetate ( $(\text{CH}_3\text{CO}_2)_2\text{Mn} \cdot 4\text{H}_2\text{O}$ ), while precursor powders are prepared by firing the precipitation. After that, the precursor powders are subjected to two heat treatment to yield  $\text{Li}[\text{Cr}_x\text{Li}_{(1/3-x/3)}\text{Mn}_{(2/3-2x/3)}]\text{O}_2$  with  $\alpha\text{-LiFeO}_2$  structure.